

# Work Order ID 57362

April 6, 2010 8:57:35 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 06/04/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 16/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 10-4-06

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

110

0.00



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

\*\*\*\*VERIFY AND INSPECT THE MATERIAL PRIOR TO USE\*\*\*\*

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end of tube with saw table setup D3274.

M 10/4/17

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

M 10/4/14

3- weld fwd cap as per dwg D3274 and OSJ004

AR Aluminum Rod Batch: M112507/M 113 207

BE 10/04/14

4- grind fwd cap weld on top surface only

BE 10/04/14

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

M 10/4/14

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

W/O:		WORK ORDER CHANGES							
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

Hand Finish  
Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

1 - - AWR 10-4-10

130

QC  
Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

1 M 10/4/15

140

QC  
Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8 10/04/15

40

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Skidtubes	0.00							
	Skidtubes								
	Skidtubes								
	Memo	0.00							
	1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274								
	2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube								
	3-Bond web in place as per Dwg D3274 & QSI 015. A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> <u>M12429</u> <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> <u>12/8/30</u> <input type="checkbox"/> Start: <input type="checkbox"/> <u>10/4/15</u> <input type="checkbox"/> Time: <input type="checkbox"/> <u>10:20</u> <input type="checkbox"/> Finish: <input type="checkbox"/> <u>10/6/15</u> <input type="checkbox"/> Time: <input type="checkbox"/> <u>7:45am</u> (Adhere for 12 hours)								
160	QC5- Inspect part completeness to step on W/O	0.00							
	QC								
	Quality Control								
	Memo	0.00							

4/6/15

5/6/15

76

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

170



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2  
OPEN HOLES TO .297" . Deburr

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD  
END OF TUBE  
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)  
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

10-4-20

BE 10-04-20

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

0.00

Memo

h2 306"

L= 4.5"

8  
10/04/20

ⓧ

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	Skidtubes	0.00							
	Memo	0.00							
	1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod A/R <input type="checkbox"/> Aluminum Rod <u>M112507</u> <i>BE 10/04/21</i>								
	3-Grind cross bolt welds flush as per Dwg D3274.								
	4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.								
200	QC5- Inspect part completeness to step on W/O	0.00							
	Memo	0.00							
	<i>QC 10-4-22</i> <i>S 10/04/22</i>								
	Quality Control								

200



QC

Quality Control

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE				By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

8/10/12



220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

+ Redline AS Per PAR 0423

11/10/12



230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 10:30 AM  
OVEN TEMPERATURE: 320°F  
FINISH TIME: 11:00 AM

11/10/12



W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00							
Quality Control									
250	HandFinishing	0.00							
HandFinish	Memo	0.00							
Hand Finishing	1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> 104251								
	2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> m112429 Sikaflex expire date: <input type="checkbox"/> 10/08.								
260	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control	Inspect Nut Plate & Inserts								

① BR 10-4-22.

① BR 10-4-22

8 id. 4/23

④

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

270



HandFinish

Hand Finishing

HAND FINISHING RESOURCE #1

0.00

Memo

0.00

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☒ M112429 ☐  
Sikaflex expire date: ☐ 10/08

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3  
A/R ☐ LPS-3 ☐ Batch: \_\_\_\_\_

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☒ M112429 ☐  
Sikaflex expire date: ☐ 10/08

BR 10-4-22

280



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

S10104/23



W/O:		WORK ORDER CHANGES						
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Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

290

Identify as per dwg &amp; Stock Location: \_\_\_\_\_ 0.00



Packaging

Memo

PPP 57365 0.00

Packaging

300

QC21- Final Inspection - Work Order Release 0.00



QC

Memo

0.00

Quality Control

mf 10-4-27

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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# Picklist Print

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Page 1

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D2600-1-190

Manufactured No

110

Each

50.0000

1.0000



Extrusion Round 3" 206

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

50

47575

50

D3285-1

Manufactured No

110

Each

164.0000

1.0000



Cap

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

164

47635

15

52511

74

52647

75

D3282-041

Manufactured No

150

Each

4.0000

1.0000



Float Web (206L/407)

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

4

52696

4

1 M 10/4/7

1 BE 10/04/14

1 M 10/4/15

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE				By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D2649 Manufactured No 190 Each 85.0000 20.0000



Cross Bolt Spacer

Warehouse  
Location

Main Warehouse

LG 85

55000 85

D3275-1 Manufactured No 190 Each 20.0000 12.0000



Crossbolt Spacer

Warehouse  
Location

Main Warehouse

LG 20

53453 20

CR3212-4-03 Purchased No 250 Each 219.0000 2.0000



Cherry Rivet

Warehouse  
Location

Main Warehouse

ST311 110139 219

111359 92

112314 127

12 BE 10/04/21

12 BE 10/04/21

2 BL 10-4-02

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

April 6, 2010 8:57:39 AM

Page 3

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3415-041

Manufactured No

250

Each

75.0000

1.0000



Nut Plate

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST056

75

33842 ✓

75

CCR264SS3-3

Purchased

No

250

Each

726.0000

2.0000



Cherry Rivet

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST311

726

111548 ✓

4

112314

4

113539

92

113973

626

ALS4-1032-130

Purchased

No

250

Each

40.0000

78.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST282

40

110511

40

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Page 3

1 BR 10-4-22

2 BR 10-4-22

78. BR 10-4-22

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:39 AM

Page 4

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3536-15



Gasket

Manufactured No

270

Each

19.0000

1.0000



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

19

51600 ✓

7

56055

12

1 BR 10-4-22

D3536-23



Gasket

Manufactured No

270

Each

7.0000

1.0000



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

7

53468 ✓

7

1 BR 10-4-22

D3536-35



Gasket

Manufactured No

270

Each

11.0000

1.0000



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

11

51628 ✓

11

1 BR 10-4-22

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:39 AM

Page 5

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3536-39

Manufactured No

270

Each

11.0000

1.0000



Gasket



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

11

48161 ✓

1

51637

10

1 BR 10-4-22

D3535-15

Manufactured No

270

Each

14.0000

1.0000



Wearshoe



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

14

53462 ✓

4

56053

10

1 BR 10-4-22

D3535-35

Manufactured No

270

Each

9.0000

1.0000



Wearshoe



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

9

51608 ✓

9

1 BR 10-4-22

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:39 AM

Page 6

Work Order ID: 57362



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3535-39



Wearshoe

Manufactured No 270 Each 9.0000 1.0000



Warehouse Loc Qty Loc Code  
Location

Main Warehouse

FP 9  
 51619 ✓ 9

1 BR 10-4-22

D3535-23



Wearshoe

Manufactured No 270 Each 14.0000 1.0000



Warehouse Loc Qty Loc Code  
Location

Main Warehouse

FP 14  
 53467 2  
 56054 ✓ 12

1 BR 10-4-22

D3537-3



Wearpad

Manufactured No 270 Each 20.0000 1.0000



Warehouse Loc Qty Loc Code  
Location

Main Warehouse

FP 57512 ✓ 20  
 35697 20

1 BR 10-4-22

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

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Page 7

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No 270 Each 51.0000 9.0000



Wearpad

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

55465

51

51

AN960C10L

Purchased No

270

Each

0.0000

80.0000



washer

AN960C416

Purchased No

270

Each

377.0000

1.0000



washer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST346

100993

377

377

9 BR 10-4-22

80 BR 10-4-22

1 BR 10-4-22

NAS1149C0332R. 114341

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:39 AM

Page 8

Work Order ID: 57362

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 06/04/2010

Required Date: 16/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3672-1

Manufactured No

270

Each

1,589.000 2.0000



Phenolic Washer



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST077

1589

47628

89

51674

500

52505

1000

Purchased No

270

Each

1,249.000 80.0000

AN3C4A



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST350

1249

113226

248

114103

501

114108

500

2 BL 10-4-22

80 BL 10-4-22

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Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES								
DATE	STEP	PROCEDURE CHANGE				By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

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Page 9

Work Order ID: 57362



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

AN4C5A

Purchased

No

270

Each

534.0000

1.0000



BOLT



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST346

534

110552 ✓

34

112243

500

1 BR 10-4-22

D2646

Manufactured

No

270

Each

35.0000

1.0000



Aft Cap



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP6

28

52663

28

Main Warehouse

fp7

7

52663 ✓

7

1 BR 10-4-22

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 9

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

April 6, 2010 8:57:39 AM

Page 10

Work Order ID: 57362



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 06/04/2010

Required Date: 16/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM  
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM  
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD  
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270

Each

31.0000

1.0000



Ring

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST473

31

51586 ✓

8

53446

23

1 BL 10-H-22

April 6, 2010 8:57:39 AM

Shop Packet Print

Page 10

W/O:		WORK ORDER CHANGES						
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





DESIGN <b>CP</b>	DRAWN BY <b>PH</b>	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
CHECKED <b>[Signature]</b>	APPROVED <b>[Signature]</b>	DRAWING NO. <b>D3274</b>	REV. D SHEET 1 OF 4
DATE <b>06.12.19</b>		TITLE <b>SKIDTUBE ASSEMBLY</b> SCALE NTS	
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED  
07.02.12 **[Signature]**  
DEO ATTACHED

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 57362

BS10-4-06

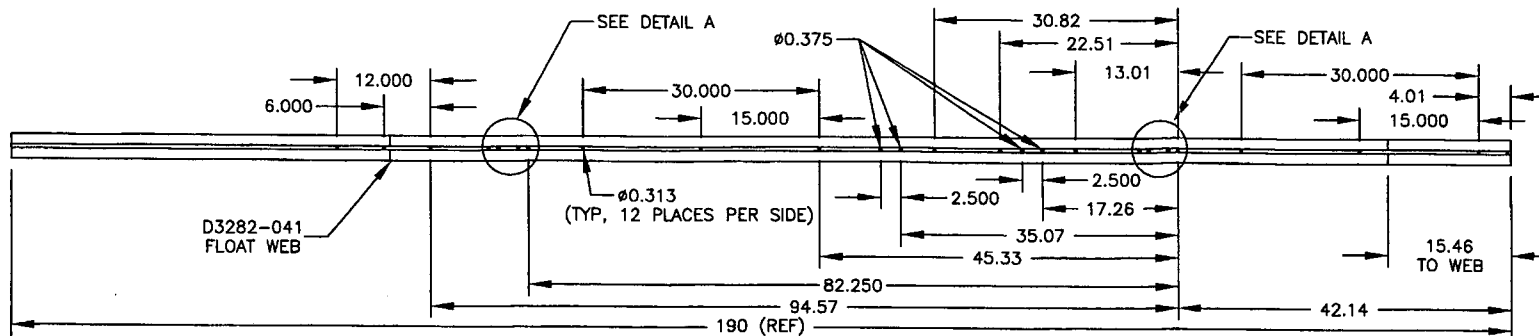
#### GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1  
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

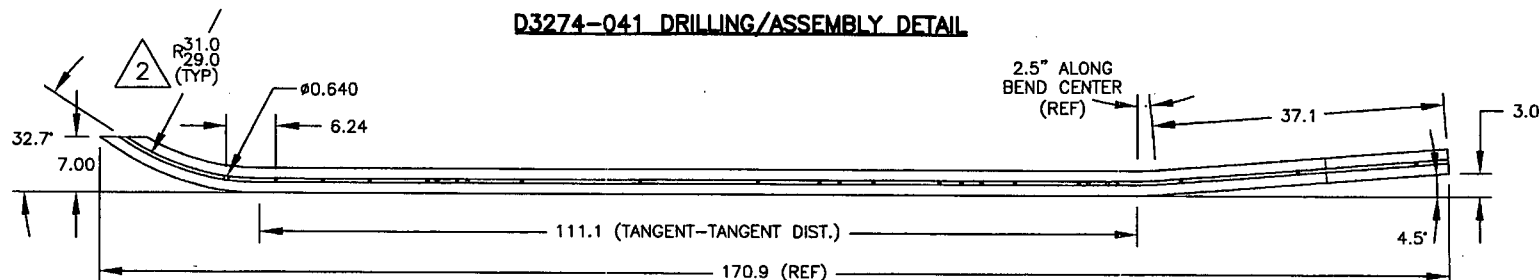
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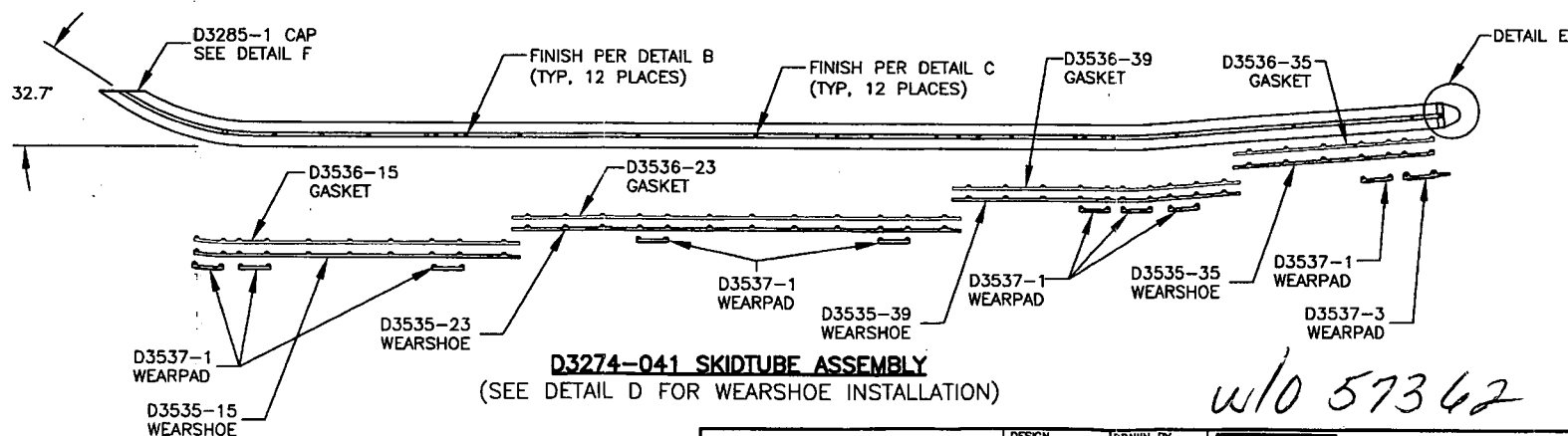
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**D3274-041 DRILLING/ASSEMBLY DETAIL**



**D3274-041 BEND/DRILLING DETAIL**



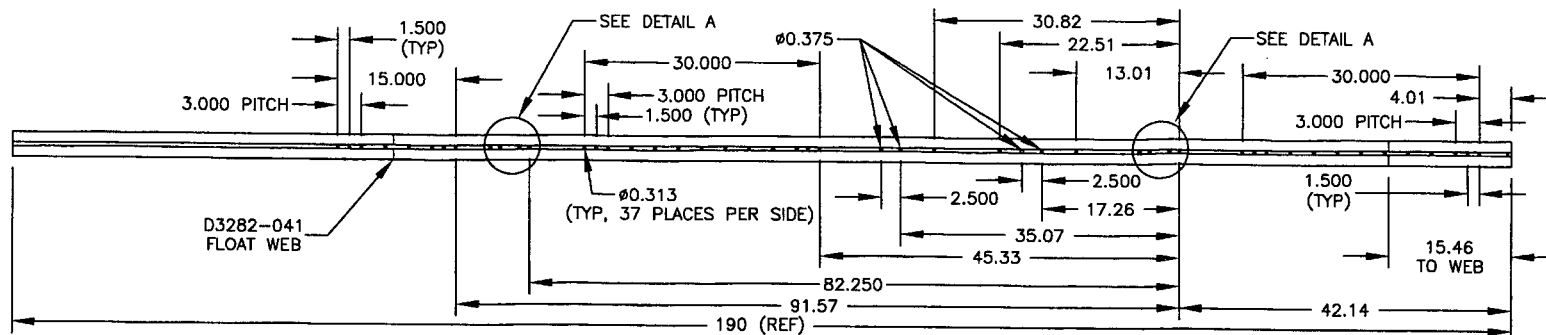
**D3274-041 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

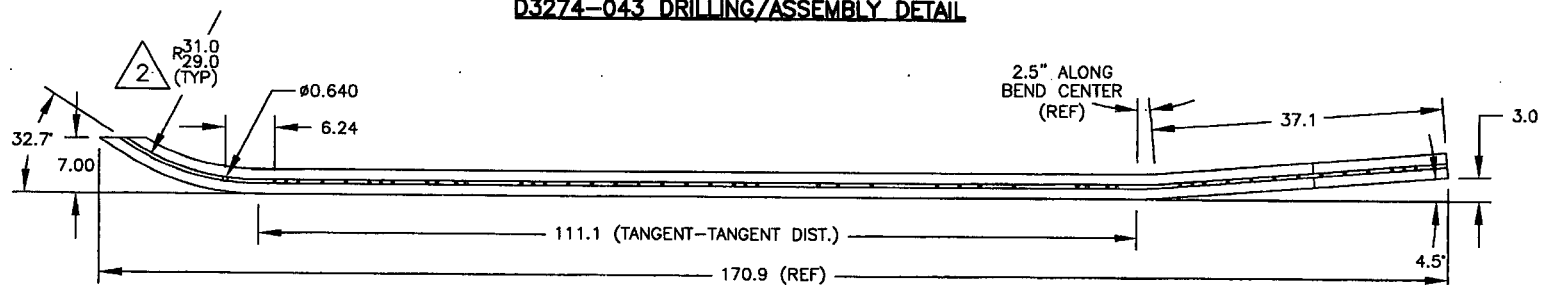
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CHECKED	CP	APPROVED	PH	DRAWING NO.	REV. D
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY		
				SHEET 2 OF 4	SCALE 1:15

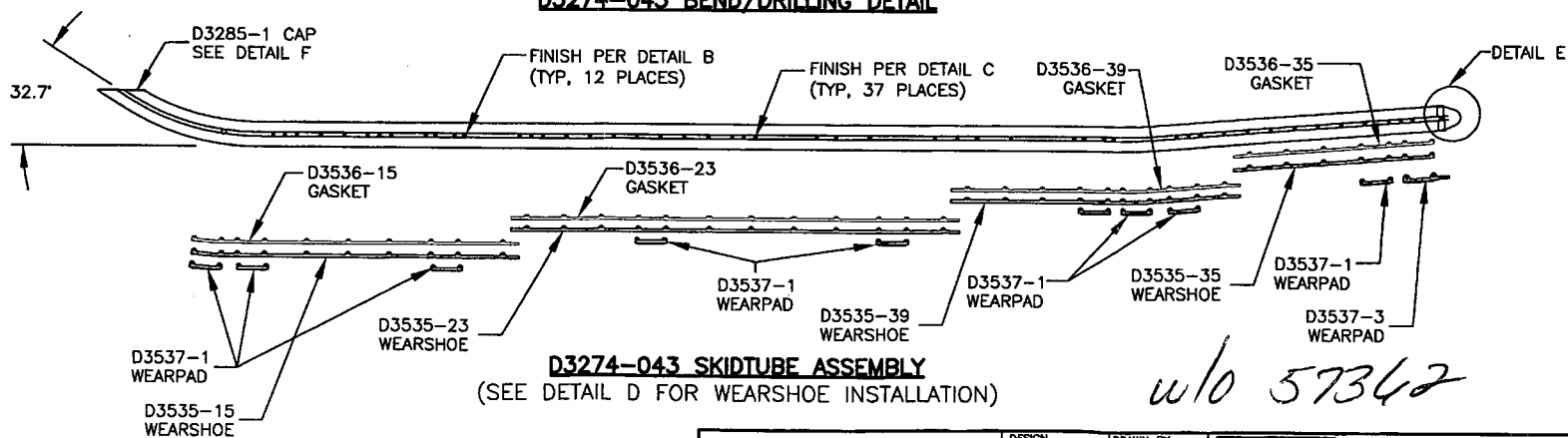
DEO ATTACHED



**D3274-043 DRILLING/ASSEMBLY DETAIL**



**D3274-043 BEND/DRILLING DETAIL**



**D3274-043 SKIDTUBE ASSEMBLY**  
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

*w/o 57342*

RELEASED

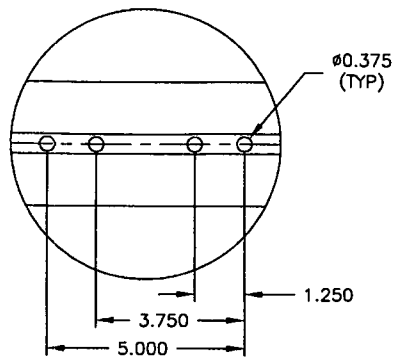
07.02.12

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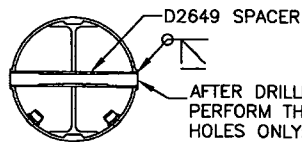
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DESIGN	CP	DRAWN BY	PH	<b>DART</b> DART AEROSPACE USA, INC. PORT HADLOCK, MA	REV. D
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 3 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:15

# **DETAIL A: DRILL DETAIL**

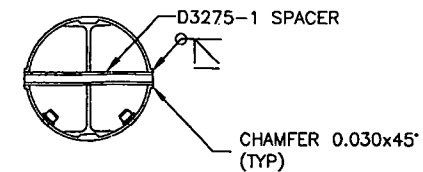


# **DETAIL B** FOR 0.375 HOLES ONLY

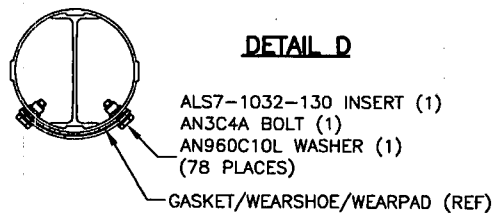


- AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR 0.375  
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
  2. INSERT D2649 SPACER
  3. WELD INTO PLACE AND GRIND FLUSH
  4. C'BORE TO 0.313x0.75 DEEP

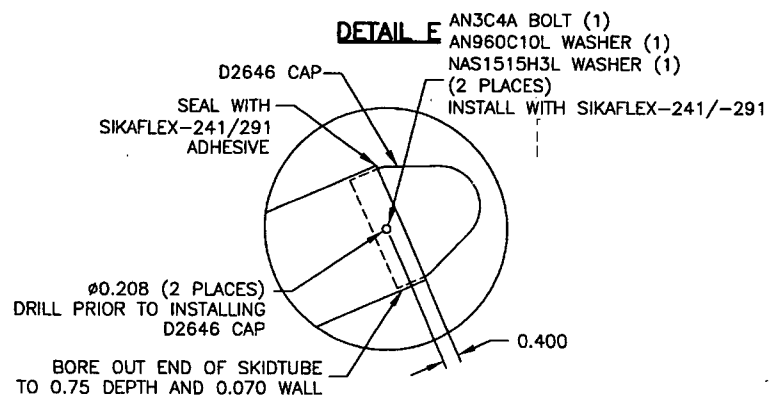
# **DETAIL C** FOR 0.313 HOLES ONLY



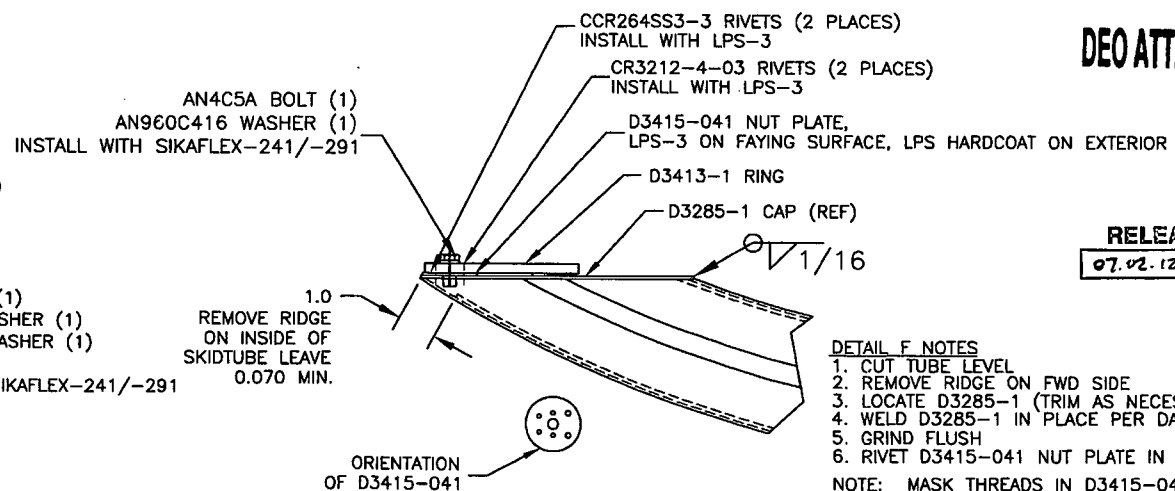
# **DETAIL D**



# **DETAIL E**



# **DETAIL F: END FINISHING DETAIL**



**DEO ATTACHED**

**RELEASED**  
07.02.12

- DETAIL F NOTES**
1. CUT TUBE LEVEL
  2. REMOVE RIDGE ON FWD SIDE
  3. LOCATE D3285-1 (TRIM AS NECESSARY)
  4. WELD D3285-1 IN PLACE PER DART QSI 004
  5. GRIND FLUSH
  6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

u/6 57362

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DATE		CHECKED	APPROVED	DRAWING NO.
06.12.19		#	#	D3274
		TITLE		REV. D
		SKIDTUBE ASSEMBLY		SHEET 4 OF 4
				SCALE
				1:3

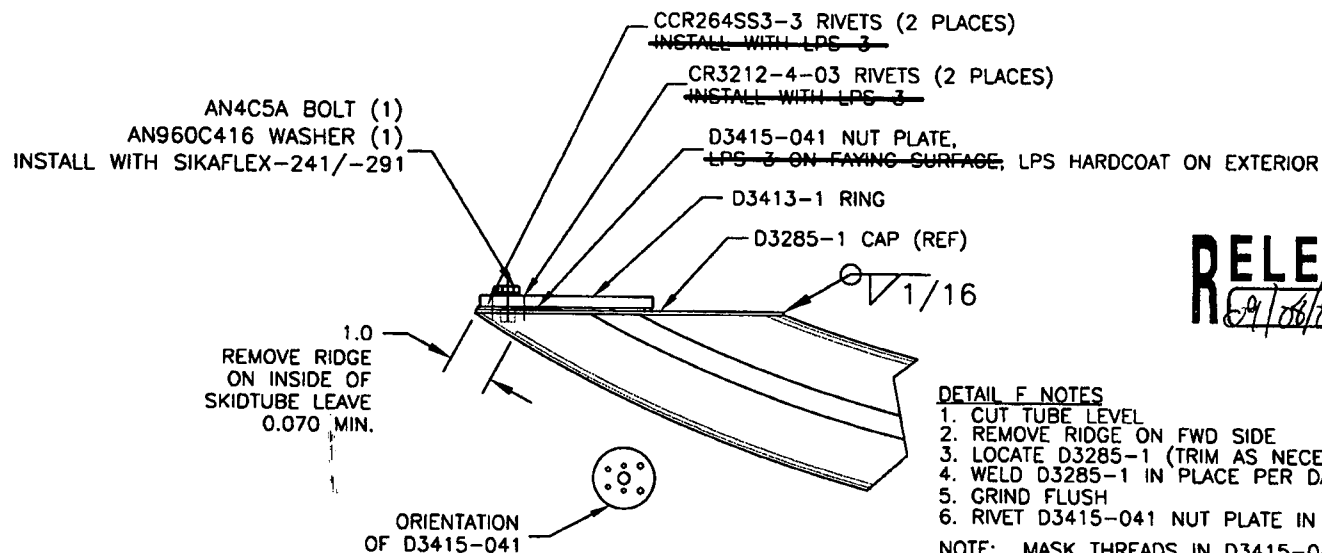
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	<b>DART AEROSPACE USA, INC</b> <b>ENGINEERING ORDER</b>	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>CP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS-3' AFTER FINISH AND INSTALLATION OF INSERTS.~~  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

### DETAIL F: END FINISHING DETAIL



**RELEASED**  
09/06/23 *[Signature]*

#### DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041  
PRIOR TO FINISH

*w/o 57342*

NO. 323

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: J-55777  
Part number: 0206-642-441  
Description: 206 skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Raf. Saf Date of Test Coupon 10.02.16  
Welder Barclay Elliott Date of Test Coupon 10-02-16

The above named individual is qualified in accordance with AWS D17.1.2001 to weld